a sleeve moveably mounted to said body for blocking and unblocking said at least one first outlet to the casing from said axial fluid flow pathway for controlling fluid flow from said axial fluid flow pathway into the casing;

a pressure relief apparatus in connection with said [mandrel] body, said pressure relief apparatus providing a pressure relief fluid pathway [therethrough] in fluid communication with said [mandrel] axial fluid flow pathway and said inside of the casing string for depressuring [said mandrel and said] the casing when a casing pressure inside of the casing string is greater than a body pressure within said axial fluid flow pathway; and

a one-way valve member in fluid communication with said [mandrel] axial fluid flow pathway of said body allowing fluid to pass into [said] the casing from said axial fluid flow pathway through said at least one second outlet [and substantially preventing back flow therethrough].

A3 Concl.

REMARKS

Claims 31 through 37 are closely related to the above claims and have been added. They are discussed below with respect to the cited prior art. These claims begin with number 31 in accord with the Examiner's comments. The appropriate fee for the additional claims is included

The claims have been amended to remove the outstanding rejection under 35 U.S.C. §112 to claims 1-29 and to further increase their clarity.

Claims 1-29 stand rejected based on nonstatutory double patenting over claims 1-43 of U.S. Patent No. 5,735,348. Applicants also submit that added claims 31-37, although not identical to those claims are also supported and could have been made in that application. Therefore, Applicants respectfully submit herewith a terminal disclaimer in accord with the Examiner's statements for claims 1-29 and 31-37.

Claims 1, 2, 10, 11, 16, and 17 stand rejected under 35 U.S.C. 102(e) as being anticipated by Stokely. Applicants have amended the claims to specify that fluid flow controlled by the sleeve goes from the internal flow passageway into the casing. Stokely does not show this. For Stokely, the fluid flow is used to inflate a packer and does not, and should not flow into the casing. In Stokely, if pressure were vented to the inside of the casing through relief device 112, then Stokely would be inoperative. The elastomeric sealing element would not inflate and circulation could not be effected. Stokely's relief device 112, which is activated by movement of upper body 110 is used to permit flow for inflating elastomeric sealing element 56. Therefore, the inflating fluid is necessarily trapped within chamber 60 so as to be prevented from venting into the casing. See Col. 9, lines 40-50. Movement of the extension sleeve in Stokely is controlled by the hydraulic fluid from port 74, not the fluid used for circulation purposes. Thus, hydraulic fluid is used for inflating the sealing element 56, not for fill-up or circulation fluid. The hydraulic fluid is unrelated to the fluid used to fill the casing or to circulate through the casing. Moreover, it would clearly be undesirable for Stokely to vent or leak the hydraulic fluid into the casing as the packer would not inflate or would deflate at an improper time.

More specifically, in Claims 1, 10, 16, and 29, Applicant's have more clearly specified that the sleeve is used to control fluid flow from the fluid flow passageway into the casing, that thereby results in relieving pressure from within the body into the casing. When sleeve 26 is moved to the position shown in Applicants FIG. 4, this permits circulation fluid flow from the rig pumps through laterally positioned ports 19c into the casing. Circulation may involve high flow that can erode metal and seals rather quickly. Applicant's system avoids erosion by using a sliding sleeve that remains outside the flow of fluid through the laterally positioned ports.

Claims 1, 10, and 16 are even further amended to specify that the sliding sleeve is not only used for controlling circulation into the casing but is also biased so as to be urged toward at least one position or the other. Reviewing the cited art from the file it would appear that US 4,997,042 to

Jordan may also reveal a sliding sleeve that is slotted. However, Jordan's sliding sleeve is not biased nor does it operate to control flow. If Jordan were biased there would be no way to open and close the tool. It would simply stay in the biased position, thereby preventing operation. There is no motivation for Jordan to use the sleeve to control fluid flow because Jordan simply turns the rig pumps on and off. The slotted sleeve in Jordan is moved only to inflate or disinflate the packer. A later embodiment of essentially the same tool by the cited art to a second Stokely 5,191,939 shows that if the packer is inflated by a remote line (FIG. 7), then the sleeve is fixed in place as there is no point that it be sliding, much less be a biased sliding sleeve. Jordans sleeve permits both fluid fill and circulation flow unlike Applicant's tool that uses the sleeve to handle increased flow of circulation. In other words Jordan's tool does not show a biased sliding sleeve, Jordan's tool has no reason to have a biased sliding sleeve, and would apparently be inoperable if it did have a biased sliding sleeve.

Moreover, Applicant's use of a biased sleeve rather than a biased valve that remains in the flow path as shown in some cited prior art,e.g. Brisco 5,501,280, is unique. The circulation fluid is a high flow stream that can cut metal. Applicant's biased sliding sleeve moves to open holes that permit the high flow. Valve elements that stay in the path of the fluid flow are thereby easily damaged. Therefore, a biased slidable sleeve as taught by Applicant is unique, not contemplated by the cited prior art, and is a significant improvement over the prior art.

Claims 12 and 29 are rejected under 35 USC 103(a) as being unpatentable over Stokely. As explained above, Stokely does not use or have a biased sliding sleeve for controlling fluid into the casing. Moreover, Applicants provide a second one-way valve for selective control of fluid. The feature of having two separately controllable outlets in a circulation/fill-up tool is highly unique and not shown in any prior art. Stokely does not show two separately operable valves that are used to permit fluid flow from the fluid passageway to the casing. Applicant's use the one-way valve for filling, which is a low flow operation, and the sliding sleeve control for circulation which may be

high flow operation. As discussed above, circulation is high flow that may cut into metal and damage seals. Applicant's use a first valve (the mudsaver valve 34 (FIG. 3) for lower flow fill-up procedure but use a second valve controlled by the biased sliding sleeve for high flow circulation.

Thus, claims 12 and 29 discloses a tool with a moveable sleeve (See 26 in FIG. 4) for communication with the casing, a pressure relief apparatus (such as 44 of FIG. 3A although other pressure relief apparatus are disclosed in the specification, e.g., FIG. 8 or 9), and a one-way mud saver valve also for communication with the casing (See 34 in FIG. 3A). The combination of biased moveable sleeve to control a first outlet and a one-way mudsaver valve to control a second outlet are plainly not shown in the cited prior art. Stokely does not show or contemplate these features.

Claim 31 and 32 add to the above limitations to even more particularly specify the use of separately controllable first and second outlets for a circulating/fill-up tool with the sliding sleeve controlling the first outlet and a valve, such as the mudsaver valve, controlling the second outlet. Neither Stokely nor the prior art discloses these features. The prior art does not show separately operable outlets even though there is an advantage of avoiding erosion if a special outlet is provided for circulation which may often be high pressure and/or high volume flow as compared with simply filling the casing.

As well, Claim 33 specifies a biased sleeve for selectively controlling fluid flow into the casing. Neither Stokely nor the prior art discloses this feature as discussed above. As discussed above, the use of a biased sleeve for controlling high flow fluid flow prevents the sleeve being in the flow path when circulation occurs. The biased sleeve permits open and closing of the biased sleeve to control what may be very high circulation flow in a manner that avoids erosion of the valve element (the biased sleeve) which feature is not shown or contemplated in the prior art.

Claim 34 specifies a movable sleeve operable independently of fluid pressure in the internal flow path through the tool and is also biased. This combination of features is also not shown in the prior art of fill-up and circulation tools.

Claims 35 and 36 include additional limitations on the mudsaver valve, described in the previous claims, that has a valve element, such as plug or plunger 40c, that seats against seat 43, the valve element being moveable in response to pressure to open and allow fluid flow through port 19a. A tube extends from the valve element, together comprising element 40, and fluid flows into ports 40b and through the bore of element 40. These features are clearly not shown in Stokely.

Claim 37 is directed to a tool with a sliding sleeve and a cup seal. As discussed above, US 4,997,042 to Jordan may also reveal a sliding sleeve that is slotted. However, if the Jordan tool had a cup seal then the sliding sleeve would be useless because the sliding sleeve is used to fill an inflatable packer in Jordan and has no other purpose. A cup seal must already be extended to engage the casing and is further actuated by the pressure in the casing. The cup seal is used to avoid the need to inflate a seal. As discussed above, a later embodiment of essentially the same tool by the cited art to a second Stokely 5,191,939 shows that if the packer is inflated by a remote line (FIG. 7), then the sleeve is fixed in place as there is no point that it be sliding. The same is true if there is a cup seal. If the tool had a cup seal there would be no need for a hydraulic line or a sliding sleeve as the hydraulic line and sliding sleeve have the same purpose of inflating a packer.

In light of the amendments made to the claims, and the general discussion thereof, Applicant respectfully submits that the application now stands in condition for allowance. If for some reason not contemplated by Applicants, the rejections are not considered traversed by the amendments or if further rejections are applied, Applicants' attorney respectfully requests a telephonic interview so that movement towards allowance can proceed as quickly as possible.

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